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8) Develop a java program to create a class Student with members USN, name, an array credits and an array marks. Include methods to accept and display details and a method to calculate SGPA of a student.

```
import java.util.Scanner;
class Student
{
  String name;
  String USN;
  int credits[] = new int[5];
  int marks[] = new int[5];
  double sgpa = 0.0;
  double cgpa;
  int grade[] = new int[5];

double calculate(int m[], int c[])
{
  int j;
  double sum = 0.0;
  int div = 0;
  for(j = 0; j < 5; j++)
  {
    if(m[j] != 100)
    {
      grade[j] = (m[j] + 10)/10;
    }
    else
```

```
{
    grade [j] = 10;
}
div = credits [j] + div;
sum = sum + (grade [j]) * credits [j];
System. out. print ln ("Grade for subject"
+ (j+1) + ":" + grade [j]);
}
sgpa = sum / div;
System. out. print ln ("SGPA:" + sgpa);
return sgpa;
}

double calcgpa (double sgpa1, double sgpa2)
{
    cgpa = (sgpa1 + sgpa2) / 2;
    return cgpa;
}

void input ()
{
Scanner sc = new Scanner (System. in);
System. out. print ln ("Enter subject credit for semester:");
int i;
for (i = 0; i < 5; i++)
{
  credits [i] = sc. nextInt ();
}
```

```
System.out.println("Enter marks for subject:");
for(i=0; i<5; i++)
 {
   marks[i] = sc.nextInt();
 }
}

Public static void main(String args[]) {
Scanner SC1 = new Scanner(System.in);
System.out.println("Enter number of students");
int n = SC1.nextInt();
Student obj[] = new Student[n];
int K;
for(K=0; K<n; K++)
{
obj[K] = new Student();
System.out.println("Enter student name:");
name = SC1.~~ne~~;
System.out.println("Enter student USN");
USN = SC1.nextline();
obj[K].input();
System.out.println("Semester 1");
double result = obj[K].calculate(obj[K].marks,
obj[K].credits);
System.out.println("1st Semester SGPA for" + obj[K].name
+ "(" + obj[K].USN + ") is:" + result);
System.out.println("Semester 2");
obj[K].input();
```

```
double result2 = obj[K].calculate(obj[K].marks,
obj[K].credits);
System.out.println("2nd Semester SGPA for"
+ obj[K].name + "(" + obj[K].USN + ") is :" + result2);
System.out.println("CGPA for 1st year is :"
+ obj[K].calcgpa(result, result2));
}
}
}
```

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Output

```
Enter number of students
1
Enter student name
Abhinav
Enter student USN
1
Enter subjects credits for semester
3
3
3
3
3
3
3
3
```

Enter marks
85
90
91
90
89
78
70
95
Semester 1
Grade for subject 1 : 9
Grade for subject 2 : 10
Grade for subject 3 : 10
Grade for subject 4 : 10
Grade for subject 5 : 9
Grade for subject 6 : 8
Grade for subject 7 : 8
Grade for subject 8 : 10
SGPA = 9.25
1st Semester SGPA for null (null) is : 9.25
Semester 2
Enter credits
3
3
3
3
3
3
3
3

Enter marks

90

98

95

96

87

85

80

89

Grade for subject 1 : 10

Grade for subject 2 : 10

subject 3 : 10

subject 4 : 10

subject 5 : 9

subject 6 : 9

subject 7 : 9

subject 8 : 9

SGPA : 9.5

2nd semester SGPA for null (null) is : 9.5

CGPA for first year is : 9.375

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